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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/500,502
Filing Date: February 22, 2005
Appellant(s): VRIES ET AL.

MAILED
JUN 13 2007
GROUP 1700

John C. Fox
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 5, 2007 appealing from the Office action mailed October 16, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct. It is noted that claim 1 is summarized in the first two paragraphs.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,639,362	SCOTT et al	10-2003
5,625,256	TIEDT et al	4-1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-6 are rejected under 35 U.S.C. 102(a or e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Scott et al (6,639,362).

Scott et al teach a sintered polycrystalline body to be used in high intensity discharge lamps comprising alumina with the additives MgO 50-1500 ppm, ZrO₂ 0-700 ppm and Dy₂O₃ 0-1000 ppm, see column 2, lines 47-64. Preferably the sintered alumina body includes at least 100 ppm ZrO₂, see column 4, lines 42-44.

In view of the substantial amount of overlap in the ranges taught by Scott et al and the ranges of the instant claims, the claims are considered anticipated or in the alternative the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time of the invention to have selected the overlapping portion of the range disclosed by the prior art because overlapping ranges have been held to be a prima facie case of obvious, see In re Malagari, 182 U.S.P.Q 549.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedt et al (5,625,256) further in view of Scott et al (6,639,3623).

Tiedt et al teach a sintered polycrystalline alumina used in high intensity discharge lamps not unlike that of Scott et al and the instant invention. Tiedt et al teach an alumina material further including MgO 100-800 ppm, ZrO₂ 200-1200 ppm and Y₂O₃ 10-300. Tiedt et al limits the amount of MgO to 800 ppm to prevent the formation of secondary phases, column 3, line 66 to column 4, line 8. ZrO₂ is added in amounts

greater than 200 ppm to improve resistance and limited to 800 ppm to prevent undesired grain growth, column 4, lines 8-16.

Tiedt et al fail to teach the inclusion of Dy_2O_3 .

Scott et al teach a polycrystalline alumina material for high intensity discharge lamps where Y_2O_3 and Dy_2O_3 may be substituted in the composition, see column 4, lines 42-47.

One of ordinary skill in the art at the time of the invention would have found the substitution of Dy_2O_3 for the Y_2O_3 in the sintered polycrystalline body of Tiedt et al obvious because Scott et al teach Dy_2O_3 and Y_2O_3 are obvious equivalents and at least one is present in an amount greater than 5 ppm.

(10) Response to Argument

Response to appellants' arguments concerning the rejection of Claims 1-6 under 35 U.S.C. 102(a or e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Scott et al (6,639,362).

Appellants argue the claims limit the amount of MgO to 1000 ppm while Scott et al allows for up to 1500 ppm. It is further argued that the MgO is limited to 1000 ppm above which spinels are undesirably formed. Firstly, limiting to 1000 ppm MgO to prevent the formation of spinels is not considered to be supported by the instant disclosure. Although page 2, lines 28-30 does teach limiting the MgO to prevent formation of spinel and amount in that portion of the disclosure is not recited. The disclosure fails to recite that the upper limit is set at 1000 ppm specifically to prevent the formation of spinels. Furthermore, Scott et al teach MgO in an amount of 50-1500 ppm

which fully encompasses the claimed range as well as less than 1/3 of the range taught by Scott et al is outside the claimed range. One of ordinary skill in the art, selecting compositions within the ranges of Scott et al would more likely select compositions within the claimed range than outside the claimed range.

Appellants also argue Scott et al teach ZrO_2 is an optional component while the instant invention requires ZrO_2 in an amount of 50-600 ppm. It is agreed that in the composition of Scott et al ZrO_2 is an optional component, however Scott et al teach in the preferred composition ZrO_2 is present in an amount at least 100 ppm, column 4, lines 42-44. The range of ZrO_2 taught by Scott et al is 100-700 ppm.

Appellants also argue Scott et al fail to teach Er, Ho and Tl. Although Scott et al do not teach Er, Ho and Tl, they are not required by the instant claims. Claim 1 sets forth "second metal M is selected from erbium, holium, dysprosium and thulium". Only one metal selected from the group is required by the instant claims. Scott et al teach dysprosium. Only one member of the group is sufficient to anticipate the claims because not all the members of the Markush group are required in the claim.

Response to appellants' arguments concerning the rejection of Claims 1-6 under 35 U.S.C. 103(a) as being unpatentable over Tiedt et al (5,625,256) further in view of Scott et al (6,639,3623).

Appellants argue that Tiedt et al and Scott et al are not properly combinable because Tiedt et al teaches an upper limit of 800 ppm while Scott et al teach an upper range of 1500 ppm. Also Tiedt et al requires ZrO_2 and Scott et al teach ZrO_2 is optional, although a preferred component. The references Tiedt et al and Scott et al are

considered to be properly combinable because the ranges of MgO, ZrO₂ and Y₂O₃ taught by Tiedt et al fall within the ranges taught by Scott et al and therefor are not considered to conflict. Tiedt et al teach a range of 100-800 ppm MgO within the 50-1500 ppm range of MgO that Scott et al teach. Tiedt et al also teach limiting the MgO to less than 800 ppm to prevent the formation of secondary phases. Secondary phases of MgO and Al₂O₃ would be spinel (MgAl₂O₄), see column 3, line 66 to column 4, line 8. Tiedt et al teach a preferred range of ZrO₂ of 200-800 ppm as well as a more preferred range of 300-600 ppm ZrO₂, while Scott et al teach a preferred range of ZrO₂ of 100–700 ppm. It is agreed that neither Tiedt et al or Scott et al teach the addition of Er, Ho and Tl however these components are not required by the claims because of the Markush terminology.

Appellants also argue Scott et al fail to teach the reason for the upper limit of 1500 ppm MgO. Although Scott et al does not give a clear reason for the upper limit, Tiedt et al teach MgO should be limited to 800 ppm to prevent the formation of secondary phases. Tiedt et al further teach ZrO₂ is added in amounts of at least 200 ppm to improve resistance and less than 800 ppm to prevent undesired grain growth.

Scott et al is relied upon for teaching Y₂O₃ may be substituted with Dy₂O₃. Scott et al teach either Y₂O₃ or Dy₂O₃ may be used in polycrystalline alumina bodies. Furthermore, not every member of the four member Markush group needs to be taught because the members of a Markush group are in the alternative.

Contrary to appellants' remarks, the ranges taught by Scott et al are not partially overlapping the ranges of the instant invention. Tiedt et al and Scott et al are properly

combined because the ranges taught by Scott et al completely encompass the ranges of the instant claims and those taught by Tiedt et al. Furthermore ranges taught by Tiedt et al fall squarely within the ranges of the instant claims and are therefor considered properly applied to the instant claims.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

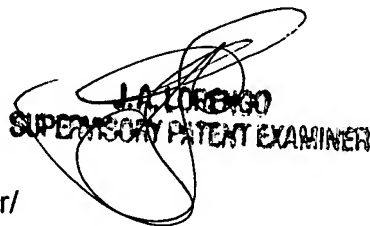
Respectfully submitted,

Karl Group



Conferees:

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Quality Assurance Specialist, TC 1700